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MONDAY, JANUARY 26TH, 1852.

THOMAS ROMNEY ROBINSON, D.D., PRESIDENT, in the Chair.

ON the recommendation of the Council, it was resolved:

That in place of chapter viii., section 6, of the By-Laws, the following be substituted:

"Papers read, and other business previously arranged by the Council transacted."

The Secretary read a letter from Messrs. Waterhouse and Co., presenting to the Academy two drawings by Mr. Watson, on a large scale, of the ancient brooch in their possession.

Sir William Betham presented a fragment of an alabaster hand found near Monkstown.

Lord Talbot de Malahide presented a very ancient bronze bell, said to have been found near Tuam.

Mr. Mallet read a Paper on the Results of the Discussion of the Great Earthquake Catalogue, prepared by the command of the British Association for the Advancement of Science.

He exhibited diagrams to the Academy discussing by curves the *distribution in time and space* of all recorded earthquakes, which have been collected in the great Catalogue of Earthquakes, prepared by command of the British Association for the Advancement of Science, embracing the whole historical period down to the end of the year 1850, and comprising about six thousand single earthquakes.

He stated the methods and precautions adopted in forming this large Catalogue, whose distribution is tabular. And from this, the largest basis of induction yet produced on the subject, he stated some of the principal conclusions that the discussion of the facts by the method of curves warranted.

The records of earthquakes become more and more numerous as navigation and travel have, in the course of time, become extended, though it is not probable that the actual number of earthquakes occurring at a remote antiquity was less than now.

Their extreme frequency, during the last two or three centuries, since the attention of mankind has been alive to the record of such phenomena, and intercourse has been more perfect, is such as fully to warrant the position of the author's first Report, that no day passes without one or more; and that they are the indices of a constantly and pretty uniformly present, cosmical force; "the re-action of the interior of the planet upon its exterior" having, however, epochs of greater disturbance and epochs of repose.

The peculiar features of the curves exhibited to the Academy were shown, and of the secondary deduced curves of maxima, &c., as also the deduced curves, showing the distribution of earthquakes with reference to seasons and months. These seem to indicate a preponderance in the winter months; but the author is disposed to view this result as accidental, although agreeing with the deduction of M. Perrey from his much more limited base of induction.

The author also exhibited and explained his large Chart of the World, on Mercator's projection, on which the distribution of earthquakes in space is laid down from the Catalogue, and, by a peculiar system of colouring, the relative intensity and area of disturbance, and the number or reduplication of shocks also indicated, for every locality over the whole explored surface of the earth.

He pointed out the results which this map indicated, and the differences between it and the maps of Johnston and Berghaus.

The largest habitually convulsed area now on the earth's surface is in and around the Gulf of Mexico; that exposed to the most violent and repeated shocks, the Javanese Archipelago, of which the island of Sumbava forms nearly the centre; while, probably, the most interesting earthquake tract now known is the great submarine one in the Atlantic Ocean, in latitude 0° to 1½° south, and west longitude, from 20° to 23° or 24°.

The places on the earth's surface as to which earthquake information is most wanted, and to be commended to the attention of travellers are, the great Ethiopian chain of mountains, and interior of Africa generally, Madagascar, Central and Northern Asia, where the earthquake regions seem to follow the courses of the great northern rivers, north of Lake Baikal, the north-west of North America, the Gallipagos Islands, and in Europe, Spain.

The President made some remarks upon Mr. Mallet's Paper.

Dr. Allman read a paper on the Homology of Organs and the Affinities of the Polyzoa and Tunicata.

In this communication it was the author's object to demonstrate that the affinities between the Tunicata and Polyzoa were even closer than what was generally imagined, and that almost every portion of the organization of the one had its corresponding homologue in the other. The hippocrepean Polyzoa are those which indicate most clearly the unity of type on which the two groups are constructed, and a comparison was therefore instituted between a *Clavelina* and a *Plumatella.* It was shown :—

1. That the respiratory sac of the one was in every particular homologous with the tentacular crown of the other; that the arms of the lophophore in Plumatella were represented by the "branchial sinus" in Clavelina, the tentacula in Plumatella by the transverse bars or vessels which spring off from each